STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

EXHIBIT 308

BUREAU OF WATER PROTECTION AND LAND REUSE
OFFICE OF THE BUREAU CHIEF

FEB 04 2010

February 2, 2010

Paul E. Stacey, Director
Bureau of Water Protection and Land Reuse
Planning & Standards Division
Department of Environmental Protection
79 Elm Street
Hartford, CT 06106

Re: Revised Margin of Safety Data Set for CT's Largest Public Water Supplies

Dear Mr. Stacey:

Please find enclosed a complete new set of available margin of safety data for CT's largest public water suppliers. This revised data set can simply replace the original package of MOS data sheets submitted at the public hearing on January 21, 2010. The new data set is more complete, presented in alphabetical order by public water system, corrects some initially recognized errors, and has improved formatting to make the information easier to understand. DPH staff has worked diligently to help ensure this compendium of data is the most complete and accurate information that is available to date on a statewide basis. DPH fully expects further revisions may be necessary in some cases and wishes to work with DEP, the water industry, and any other interested parties to ensure the most accurate margin of safety data is available on a statewide basis to complement the efforts of our agencies. Thank you and please contact me if you have further questions regarding the revised submittal.

Sincerely,

Ellen Blaschinski

Ellen Blaschinski, Branch Chief
Regulatory Services Branch

Phone: (860) 509-7333
Telephone Device for the Deaf (860) 509-7191
410 Capitol Avenue - MS # 51WAT
P.O. Box 340308 Hartford, CT 06134
Affirmative Action / An Equal Opportunity Employer

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - Ball Pond

Towns Served: New Fairfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.06	0.04	602

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.043	0.042	0.047	0.063	0.051	0.050	0.056	0.075	0.064	0.084	0.095	0.126

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	0.78	0.80	0.71	0.53
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - Greater Bridgeport

Towns Served: Bridegport, Easton, Fairfield, Monroe, Redding, Shelton, Stratford, Trumbull, Weston, Westport, Wilton

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Groundwater	90.20	105.53	352135

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
47.542	48.908	53.666	58.832	64.410	74.270	83.400	94.240	77.150	87.700	98.630	111.290

	MOS (ADD) without streamflow			
	Current	5-year	20-year	50-year
	2.22	2.16	1.97	1.79
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

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2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

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Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - Cornwall

Towns Served: Cornwall

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.05	0.05	97

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.008	0.011	0.012	0.012	0.010	0.016	0.017	0.018	0.015	0.022	0.024	0.025

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	5.40	3.38	3.18	3.00
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

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2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

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Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

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Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - East Hampton

Towns Served: East Hampton

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.03	0.03	132

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.007	0.007	0.007	0.007	0.011	0.011	0.011	0.011	0.013	0.015	0.015	0.015

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.45	2.45	2.45	2.45
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

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- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
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Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - Hawkstone

Towns Served: Seymour

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.05	0.05	121

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.014	0.010	0.007	0.007	0.017	0.023	0.016	0.016	0.018	0.026	0.018	0.018

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.94	2.17	3.13	3.13
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

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Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - Kent

Towns Served: Kent

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground Water	0.39	0.39	820

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.110	0.105	0.100	0.102	0.123	0.140	0.134	0.136	0.137	0.188	0.179	0.182

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	3.14	2.76	2.88	2.84
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

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Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - Lakeside

Towns Served: Southbury

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.14	0.14	434

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.095	0.047	0.035	0.035	0.130	0.071	0.052	0.052	0.133	0.105	0.077	0.077

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.11	2.03	2.77	2.77
Minimum Adequate Margin of Safety	NO	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

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Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - Lebanon

Towns Served: Lebanon

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.03	0.03	166

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.013	0.011	0.012	0.012	0.016	0.014	0.015	0.015	0.020	0.018	0.019	0.018

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.88	2.14	2.00	2.00
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

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- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - Litchfield

Towns Served: Goshen, Litchfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.71	0.43	2465

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.286	0.306	0.332	0.413	0.548	0.406	0.440	0.548	0.805	0.597	0.647	0.805

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	0.79	1.06	0.98	0.79
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - Main (Valley)

Towns Served: Beacon Falls, Oxford, Seymour

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	4.89	4.89	14108

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
1.58	1.56	1.63	1.91	1.94	2.04	2.12	2.49	2.35	2.91	3.03	3.55

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.52	2.40	2.31	1.96
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - Mystic

Towns Served: Groton, Stonington

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Groundwater	2.00	2.43	14209

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
1.71	1.78	1.77	1.89	2.38	2.55	2.53	2.71	2.75	2.87	2.85	3.04

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.02	0.95	0.96	0.90
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - Norfolk

Towns Served: Norfolk

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface Water	0.73	0.40	955

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.099	0.097	0.099	0.120	0.118	0.137	0.140	0.170	0.203	0.221	0.226	0.275

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	3.39	2.92	2.86	2.35
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - North Canaan

Towns Served: North Cannon

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.61	0.61	1406

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.289	0.332	0.323	0.327	0.342	0.418	0.407	0.412	0.389	0.524	0.510	0.515

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.78	1.46	1.50	1.48
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - Ridgefield I & 2 (Includes Barnum & Mckeon)

Towns Served: Ridgefield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground Water	1.80	1.71	7926

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.859	1.036	1.289	1.465	1.095	1.328	1.651	1.875	1.400	1.595	1.982	2.251

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.56	1.29	1.04	0.91
Minimum Adequate Margin of Safety	YES	YES	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - Salisbury

Towns Served: Salisbury

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground Water	1.43	1.13	1906

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.436	0.387	0.359	0.365	0.569	0.517	0.480	0.488	0.733	0.650	0.604	0.614

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.98	2.18	2.35	2.31
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - Simsbury

Towns Served: East Granby, Granby, Simsbury

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	4.68	4.91	15258

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
2.10	2.37	2.44	2.59	3.42	4.09	4.21	4.47	4.12	5.45	5.61	5.96

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.44	1.20	1.17	1.10
Minimum Adequate Margin of Safety	YES	YES	YES	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - SW Fairfield County

Towns Served: Darien, Greenwich, New Canaan, Stamford, Wilton; AWC-NY

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground Water	38.79	54.43	180387

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
34.728	34.495	35.839	38.066	52.590	51.740	53.760	57.100	61.110	60.370	62.720	66.610

	MOS (ADD) without streamflow			
	Current	5-year	20-year	50-year
	1.57	1.58	1.52	1.43
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Aquarion - Timber Trails

Towns Served: New Fairfield, Sherman

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.09	0.06	315

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.021	0.020	0.020	0.020	0.028	0.035	0.035	0.035	0.040	0.039	0.039	0.039

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.25	1.80	1.80	1.80
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Avon Water Company

Towns Served: Avon, Canton, Simsbury

Connecticut Department of Public Health

Source Water Type	Safe Yield	Available Water	Population
Ground Water	4.19	3.19	11,590

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
1.59	1.64	1.75	2.1	not available				2.87	3.44	3.66	4.41

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	#VALUE!	#DIV/0!	#DIV/0!	#DIV/0!
Minimum Adequate Margin of Safety	#VALUE!	#DIV/0!	#DIV/0!	#DIV/0!

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Berlin Water Control Commission

Towns Served: Berlin

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	3.72	2.76	5128

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
1.49	1.75	2.30	3.26	1.94	2.27	2.76	3.91	2.24	2.62	3.22	4.56

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.42	1.21	1.00	0.70
Minimum Adequate Margin of Safety	YES	YES	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2004 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Bethel Water Department

Towns Served: Bethel

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground Water	1.36	1.36	9,507

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.94	0.96	0.99	1.07	1.03	1.05	1.08	1.18	1.4	1.44	1.48	1.6

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.32	1.30	1.26	1.15
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2007 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Bristol Water Department

Towns Served: Bristol

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground Water	6.87	6.87	52,097

A margin of safety for this system is awaiting safe yield tests on the ground water supply.

Connecticut Department of Public Health

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
5.43	6.08	6.75	7.87	7.37	8.26	9.17	10.69	10.39	11.63	12.92	15.06

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	0.93	0.83	0.75	0.64
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2004 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Candlewood Shores Tax District

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.19	0.19	1,315

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.08	0.08	0.08	0.09	0.09	0.09	0.1	0.11	0.12	0.12	0.12	0.13

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.11	2.11	1.90	1.73
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

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- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2002 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Colchester Water Department

Towns Served: Colchester

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.74	0.52	4,001

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.44	0.55	0.66	0.9	0.52	0.66	0.79	1.08	0.62	0.77	0.93	1.26

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.00	0.79	0.66	0.48
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2005 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Connecticut Valley Hospital

Towns Served: Middletown

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface water	0.69	0.69	3132

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.3	0.32	0.38	0.51	0.37	0.39	0.47	0.62	0.56	0.59	0.71	0.94

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.86	1.77	1.47	1.11
Minimum Adequate Margin of Safety	YES	YES	YES	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Cromwell Fire District

Towns Served: Cromwell

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	not available	4.896	12825

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
1.77	2.24	2.24	3	2.2	3.61	3.9	4.83	3.23	5.56	6	7.44

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.23	1.36	1.26	1.01
Minimum Adequate Margin of Safety	YES	YES	YES	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2005 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Correctional

Towns Served: Enfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.98	0.98	5460

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.74	0.63	0.63	0.68	0.88	0.87	0.87	0.95	not available	1.24	1.24	1.36

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.11	1.13	1.13	1.03
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2001 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company - Country Mobile

Towns Served: Griswold

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.08	0.02	186

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.010	0.009	0.009	0.009	0.010	0.010	0.010	0.010	0.020	0.017	0.016	0.017

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.80	1.76	1.86	1.76
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company - Crystal

Towns Served: Killingly, Brooklyn

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground water	5.42	1.51	6378

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
1.198	1.226	1.361	1.597	1.388	1.485	1.647	1.933	1.882	2.062	2.288	2.685

Available water reflects commitment to Energy Plant.

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.09	1.02	0.92	0.78
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company - Gallup

Towns Served: central portion of Plainfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	2.26	0.45	2538

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.330	0.330	0.360	0.420	0.360	0.370	0.410	0.480	0.540	0.510	0.560	0.650

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.25	1.22	1.10	0.94
Minimum Adequate Margin of Safety	YES	YES	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company, Naugatuck Region, Central System

Towns Served: Portions of Towns of Beacon Falls, Bethany, Prospect, Naugatuck, Moddlebury, Waterbury; also two consecutive systems of Heritage-Middlebury and Hillcrest Fire District

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Groundwater	4.75	4.29	21980

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
2.86	2.78	2.99	3.83	3.23	3.20	3.44	4.39	3.82	3.93	4.23	5.40

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.33	1.34	1.25	0.98
Minimum Adequate Margin of Safety	YES	YES	YES	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

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- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
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*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2005 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company, Naugatuck Region, Collinsville System

Towns Served: Canton, Collinsville, an area in NW of Avon, small area in NE section of Burlington

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface Water	2.3	1.65	6324

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.448	0.436	0.479	0.621	0.674	0.618	0.679	0.881	0.901	0.804	0.883	1.146

Safe yield and available water reflect purchase of 1 MGD from Avon Water Department.

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.45	2.67	2.43	1.87
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2007 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company, Northern Region, Lakewood/Lakeview System

Towns Served: Isolated areas of Bolton and Coventry

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.05513	0.033	490

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.025	0.025	0.025	0.026	0.031	0.029	0.029	0.031				

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.06	1.14	1.14	1.06
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company, Northern Region, Llynwood System

Towns Served: Isolated areas of Bolton and Coventry

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.02984	0.031	192

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.008	0.009	0.009	0.01	0.011	0.011	0.012	0.012				

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.82	2.82	2.58	2.58
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company, Northern Region, Nathan Hale System

Towns Served: Isolated areas of Bolton and Coventry

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.0216	0.011	160

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.004	0.006	0.006	0.007	0.005	0.008	0.008	0.008				

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.20	1.38	1.38	1.38
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company, Northern Region, Stafford System

Towns Served: Portion of Stafford

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground water	0.9	0.7	2383

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.48	0.49	0.51	0.54	0.52	0.55	0.58	0.6	0.7	0.72	0.75	0.79

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.35	1.27	1.21	1.17
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company, Northern Region, Western + Somers System

Towns Served: Portions of East Windsor, East Granby, Ellington, Enfield, Somers, South Windsor, Suffield, Tolland, Vernon, Windsor

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground water	24.53	14.08	75737

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
9.81	10.17	11.14	13.74	12.35	12.6	13.8	17	15.7	15.35	16.81	20.71

	MOS (ADD) without streamflow			
	Current	5-year	20-year	50-year
	1.44	1.38	1.26	1.02
Minimum Adequate Margin of Safety	YES	YES	YES	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company - Plainfield

Towns Served: portion of Plainfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	1.50	0.75	1713

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.200	0.193	0.209	0.262	0.216	0.214	0.232	0.291	0.304	0.354	0.383	0.481

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	3.49	3.52	3.25	2.59
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company, Shoreline-Guilford & Chester

Towns Served: Portions of Towns of Guilford, Madison, Clinton, Westbrook, Old Saybrook, Chester, Deep River, Essex; Also small satellite systems in Chester, Old Lyme, Voluntown, Griswold, Stonington

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Groundwater	9.71	8.21	41600

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
4.05	4.36	4.80	5.95	7.24	8.00	8.82	10.93	5.55	6.43	7.07	8.74

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.13	1.03	0.93	0.75
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2004 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company, Terryville System

Towns Served: Plymouth

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	1.51	1.2	3020

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.41	0.41	0.45	0.53	0.45	0.46	0.51	0.6	0.59	0.65	0.72	0.85

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.67	2.61	2.35	2.00
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2005 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company, Thomaston System

Towns Served: Thomaston, small portion of Plymouth

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.95	0.72	5047

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.51	0.53	0.57	0.71	0.58	0.6	0.65	0.82	0.86	0.92	0.99	1.25

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.24	1.20	1.11	0.88
Minimum Adequate Margin of Safety	YES	YES	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2005 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company - Thompson

Towns Served: portion of Thompson

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.34	0.22	1070

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.162	0.163	0.164	0.179	0.183	0.182	0.183	0.201	0.255	0.258	0.259	0.284

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.21	1.22	1.21	1.10
Minimum Adequate Margin of Safety	YES	YES	YES	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: CT Water Company, Integrated Unionville/FIP

Towns Served: Central & Western area of Farmington and small area of southwestern area of Avon

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water		4.966	19726

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
1.939	1.998	2.083	2.325	2.817	2.9	3.024	3.375	3.495	3.601	3.755	4.191

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.76	1.71	1.64	1.47
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2004 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Danbury Water Department

Towns Served: Danbury, Bethel, Ridgefield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface Water	8.2	8.2	62,000

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
7.48	7.81	9.16	11.46	8.61	8.59	10.08	12.61	9.71	10.15	11.91	14.9

	MOS (ADD) without streamflow			
	Current	5-year	20-year	50-year
	1.10	1.05	0.90	0.72
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoirs.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Department of Corrections, Montville

Towns Served: Montville

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.226	0.226	1689

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.17	0.18	0.177	0.172	0.181	0.204	0.198	0.193	0.265	0.278	0.27	0.264

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.25	1.11	1.14	1.17
Minimum Adequate Margin of Safety	YES	NO	NO	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2001 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: East Hampton WPCA

Towns Served: East Hampton

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.56	0.56	328

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.49	0.93	1	1.25	0.59	1.11	1.19	1.49	0.86	1.63	1.74	2.19

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	0.95	0.50	0.47	0.38
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2004 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: East Lyme Water & Sewer Commission

Towns Served: East Lyme

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	3.69	2.77	15,245

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
1.96	2.07	2.62	4.06	2.41	2.55	3.23	4.99	3.27	3.46	4.38	6.78

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.15	1.09	0.86	0.56
Minimum Adequate Margin of Safety	YES	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2005 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Ellington Acres Water Company (now owned by CTWC)

Towns Served: Ellington, two buildings in southern part of Somers

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.38	0.38	2342

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.21	0.37	0.63	0.70	0.30	0.55	0.93	1.03	0.41	0.72	1.22	1.34

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.24	0.68	0.40	0.36
Minimum Adequate Margin of Safety	YES	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2004 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Hazardville Water Company

Towns Served: Enfield, East Windsor

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Gound Water	4.3	4.3	17,744

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
1.56	1.84	2.21	2.99	2.03	2.54	3.05	4.13	2.99	3.68	4.42	5.98

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.12	1.69	1.41	1.04
Minimum Adequate Margin of Safety	YES	YES	YES	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2007 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Heritage Village Water Company, Southbury

Towns Served: Southbury, Middlebury, Oxford

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	2.052	2.252	7300

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
1.10	1.11	1.25	1.42	1.48	1.48	1.67	1.89	1.88	1.82	2.05	2.32

Available water for 5-year and 20-year includes 0.2 MGD from CTWC interconnection
Available water for 50-year includes 0.5 MGD from CTWC interconnection

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.39	1.52	1.35	1.35
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2009 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Groton Long Point

Towns Served: Groton

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Consecutive System	not applicable	0.3	2400

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.11	0.12	0.13	0.13	0.26	0.3	0.3	0.3	0.35	0.35	0.35	0.35

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.15	1.00	1.00	1.00
Minimum Adequate Margin of Safety	YES	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Groton Utilities

Towns Served: Groton, Ledyard, Montville

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface Water	12.6	12.6	30,200

Average Daily Demand (ADD), (MGD)				Maximum Daily Demand (MDD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
6.76	8.55	9.54	10.76	9.42	13.83	15.52	17.46	7.95	10.86	12.12	13.67

	MOS (ADD) without streamflow			
	Current	5-year	20-year	50-year
	1.86	1.47	1.32	1.17
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

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- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Jewett City Water Company

Towns Served: Jewett City

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Groundwater	1.15	0.91	21980

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.44	0.57	0.66	0.74	0.47	0.66	0.77	0.87	0.99	1.27	1.48	1.66

The WSP data for this system is wrong. The information needs to be corrected.

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.94	1.38	1.19	1.05
Meets MOS?	YES	YES	YES	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projectsions provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

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- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

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- **Large amounts of storage are not available in a groundwater source or small reservoir.**

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Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2005 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Lake Waubeeka

Towns Served: Danbury

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.18	0.18	712

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.054	0.052	0.056	0.056	0.095	0.114	0.124	0.124	0.079	0.067	0.073	0.073

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.89	1.58	1.45	1.45
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

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2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

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Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Ledyard WPCA - Gales Ferry

Towns Served: Ledyard

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Consecutive System	0.25	0.25	2,054

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.13	0.14	0.15	0.19	0.16	0.19	0.21	0.26	0.2	0.25	0.27	0.34

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.92	1.79	1.67	1.32
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

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2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

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Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2005 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Ledyard WPCA - Highlands

Towns Served: Ledyard

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.51	0.51	2,400

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.15	0.19	0.2	0.21	0.18	0.23	0.23	0.26	0.24	0.32	0.33	0.36

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.83	2.22	2.22	1.96
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2005 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Ledyard WPCA - Sablewoods

Towns Served: Ledyard

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.25	0.05	2,054

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.13	0.14	0.15	0.19	0.16	0.19	0.21	0.26	0.2	0.25	0.27	0.34

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	0.31	0.26	0.24	0.19
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2005 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Manchester Water Department

Towns Served: Manchester, South Windsor, Glastonbury, Vernon

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground water	11.01	9.18	51066

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
5.41	5.76	6.28	6.34	6.27	6.91	7.53	7.60	7.33	8.34	9.10	9.19

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.46	1.33	1.22	1.21
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2007 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Mashantucket Pequot Tribal Nation

Towns Served: Ledyard

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	2.22	2.22	41000

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.95	1.4	1.81	1.91	1.29	1.86	2.4	2.54	1.53	2.43	3.14	3.33

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.72	1.19	0.93	0.87
Minimum Adequate Margin of Safety	YES	YES	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2004 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Metropolitan Distrcit Commission (MDC)

Towns Served: Member municipialities of Bloomfield, East Hartford, Hartford, Newington, Rocky Hill, West Hartford, Wethersfield, Windsor; Also portions of non-member towns of East Granby, Farmington, Glastonbury & South Windsor

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface Water	71.45	71.45	402297

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
54.55	57.35	59.13	61.47	66.53	69.15	71.31	74.18	78.38	83.45	86.06	89.51

	MOS (ADD) without streamflow			
	Current	5-year	20-year	50-year
	1.31	1.25	1.21	1.16
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Meriden Water Department

Towns Served: Meriden, Wallingford

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground Water	8.61	8.61	58,441

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
6.66	6.46	6.34	6.79	7.36	7.8	7.6	8.1	8.56	9.7	9.5	10.2

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.29	1.33	1.36	1.27
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2007 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Middletown Water Department

Towns Served: Middletown

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Groundwater	6.36	6.36	41019

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
4.43	5.53	6.21	7.44	5.25	6.42	7.20	8.63	6.52	7.97	8.94	10.71

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.21	0.99	0.88	0.74
Minimum Adequate Margin of Safety	YES	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2004 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Montville W&WPCA

Towns Served: Montville

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Consecutive System	N/A	0.93	12,825

Available water supplied through interconnection with Groton is the maximum based upon the average daily demand.

Average Daily Demand (ADD), (MGD)				Maximum Monthly Ave. Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.07	1.1	1.5	2.8	0.097	1.5	2.1	3.9	not provided	2	2.7	5

	MOS (ADD) without streamflow			
	Current	5-year	20-year	50-year
	13.29	0.85	0.62	0.33
Minimum Adequate Margin of Safety	YES	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

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Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2005 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: New Britain Water Department

Towns Served: New Britain, Newington, Farmington, Plainville; also indirectly Berlin

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground Water	17.64	17.64	73164

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
9.91	10.36	11.12	11.83	12.13	12.01	12.89	13.72	14.77	15.12	16.23	17.27

	MOS (ADD) without streamflow			
	Current	5-year	20-year	50-year
	1.78	1.70	1.59	1.49
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2007 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: New London Water Department

Towns Served: New London, Waterford

Connecticut Department of Public Health

Source Water Type	Safe Yield	Available Water	Population
Surface Water	6.4	6.4	26,273

Average Daily Demand (ADD), (MGD)				Maximum Daily Demand (MDD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
5.94	6.09	6.33	7.14	9.21	9.44	9.81	11.07	7.78	7.98	8.29	9.35

	MOS (ADD) without streamflow			
	Current	5-year	20-year	50-year
	1.08	1.05	1.01	0.90
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2005 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Noank Fire District

Towns Served: Groton

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Consecutive	not applicable	0.43	1947

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.21	0.27	0.28	0.29	0.3	0.46	0.48	0.49	not available			

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.43	0.93	0.90	0.88
Minimum Adequate Margin of Safety	YES	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2003 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: North Stonington Water Department

Towns Served: North Stonington

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	not available	not available	5,048

Connecticut Department of Public Health

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.0011	0	0.116	0.229	0.0016	0	0.174	0.344	0.0021	0	0.232	0.458

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Minimum Adequate Margin of Safety	#VALUE!	#VALUE!	#VALUE!	#VALUE!

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Norwalk 1st tax District

Towns Served: Norwalk

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground Water	7.63	7.63	40,256

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
6.22	6.31	6.82	7.19	7.78	7.89	8.53	8.99	9.44	9.57	10.35	10.91

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	0.98	0.97	0.89	0.85
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Norwich Public Utilities

Towns Served: Norwich, Preston, Franklin, Montville

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	7.16	7.16	36,067

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
5.47	6.45	8.32	9.51	6.53	7.48	9.65	11.03	8.82	9.87	12.73	14.55

	MOS (ADD) without streamflow			
	Current	5-year	20-year	50-year
	1.31	1.11	0.86	0.75
Minimum Adequate Margin of Safety	YES	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2007 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Olmstead Water Supply Company - Birches System

Towns Served: New Fairfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.0157	0.0157	46

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	not available			

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	7.85	7.85	7.85	7.85
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.
** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2002 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Olmstead Water Supply Company - Brookwood System

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.0436	0.0436	250

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.028	0.028	0.028	0.028	0.038	0.044	0.044	0.044	not available			

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.15	0.99	0.99	0.99
Minimum Adequate Margin of Safety	YES	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2002 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Olmstead Water Supply Company - Butternut System

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.0284	0.0284	124

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.005	0.005	0.005	0.005	0.005	0.006	0.006	0.006	not available			

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	5.68	4.73	4.73	4.73
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2002 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Olmstead Water Supply Company - Newtown System

Towns Served: Newtown

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.0368	0.0368	302

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.024	0.029	0.032	0.032	0.03	0.032	0.039	0.039	not available			

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.23	1.15	0.94	0.94
Minimum Adequate Margin of Safety	YES	YES	NO	NO

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2002 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Olmstead Water Supply Company - Possum Ridge System

Towns Served: New Fairfield

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.0255	0.0255	320

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD),				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.028	0.027	0.027	0.027	0.034	0.039	0.039	0.039	not available			

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	0.75	0.65	0.65	0.65
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.
** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or
1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin
Average day demands are reasonable to consider for this type of system due to the following:
- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any
Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to
- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2002 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Portland Water Department

Towns Served: Portland

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground Water	1.40	1.40	5010

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.62	0.75	0.81	0.88	0.86	1.04	1.12	1.22	1.12	1.41	1.50	1.64

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.63	1.35	1.25	1.15
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2007 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Preston Plains Water Company

Towns Served: Preston

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.06	0.05	600

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.01	0.02	0.02	0.03	0.02	0.03	0.03	0.03	0.02	0.04	0.05	0.05

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.50	1.67	1.67	1.67
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Putnam Water Pollution Control Authority (WPCA)

Towns Served: Putnam, Thompson, Woodstock

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground water	1.38	1.37	7300

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
1.030	1.050	1.120	1.180	1.240	1.270	1.340	1.420	1.700	1.740	1.840	1.940

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.10	1.08	1.02	0.96
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2004 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Brook Acres Division

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.0194	0.0194	212

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.0105	0.0106	0.0112	0.0115	0.0134	0.0135	0.0143	0.0147	0.0159	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.45	1.44	1.36	1.32
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Brookfield Division

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.0967	0.0967	1,032

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.0586	0.0592	0.0614	0.06262	0.0699	0.0704	0.0733	0.0748	0.0774	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.38	1.37	1.32	1.29
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Cedar Heights Division

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.0408	0.0408	496

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.0213	0.0205	0.0207	0.0207	0.025	0.0241	0.0243	0.0244	0.0414	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.63	1.69	1.68	1.67
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.
** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Craigmoor

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.0072	0.0072	68

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.0022	0.0022	0.0023	0.0024	0.0028	0.0029	0.003	0.0031	0.0087	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.57	2.48	2.40	2.32
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.
** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Fieldstone

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.022	0.022	136

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.0054	0.0054	0.0056	0.0058	0.0081	0.0079	0.0082	0.0083	0.0087	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.72	2.78	2.68	2.65
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Ken Oaks Division

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.0972	0.0972	204

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.0092	0.0121	0.0122	0.0123	0.015	0.015	0.0152	0.0152	0.0171	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	6.48	6.48	6.39	6.39
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Oakwood

Towns Served: New Fairfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.0408	0.0408	408

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.0249	0.0249	0.0251	0.0252	0.0291	0.0291	0.0293	0.0294	0.0297	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.40	1.40	1.39	1.39
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Pearce Manor

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.0354	0.0354	200

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.0073	0.0073	0.0075	0.0076	0.0087	0.0088	0.009	0.0091	0.015	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	4.07	4.02	3.93	3.89
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Ridgefield Lakes #1 Division

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.0029	0.0029	40

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.0011	0.0011	0.0013	0.0015	0.0016	0.0017	0.002	0.0022	0.0033	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.81	1.71	1.45	1.32
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Ridgefield Lakes #2 Division

Towns Served:

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.0049	0.0049	60

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.0023	0.0023	0.0024	0.0025	0.0032	0.0032	0.0034	0.0035	0.0033	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.53	1.53	1.44	1.40
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.
** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Ridgefield Lakes #4 Division

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.0058	0.0058	25

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.0002	0.0002	0.0002	0.0002	0.0029	0.0003	0.0003	0.0004	0.0009	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.00	19.33	19.33	14.50
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Ridgefield Lakes #9&9A Division

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.0058	0.0058	40

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.0023	0.0023	0.0024	0.0024	0.0026	0.0026	0.0027	0.0028	0.0045	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.23	2.23	2.15	2.07
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Ridgefield Lakes #11 Division

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.0058	0.0058	40

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.0013	0.0014	0.0015	0.0016	0.002	0.002	0.0022	0.0023	0.002	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.90	2.90	2.64	2.52
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.
** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Ridgefield Lakes Main Division

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.0399	0.0399	750

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.04	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.00	1.33	1.33	1.33
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Scodon

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.0436	0.0436	152

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.0156	0.0156	0.0157	0.0158	0.017	0.0164	0.0165	0.0165	0.0234	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.56	2.66	2.64	2.64
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Rural Water Company - Soundview

Towns Served: Brookfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.1118	0.1118	68

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.007	0.007	0.0071	0.0072	0.0082	0.0106	0.0108	0.0109	0.0108	not available		

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	13.63	10.55	10.35	10.26
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Salmon Brook District

Towns Served: Granby

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.27	0.27	2151

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.16	0.16	0.16	0.17	0.22	0.22	0.22	0.23	0.24	0.24	0.24	0.25

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.23	1.22	1.21	1.18
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2005 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Southbury Training School

Towns Served: Southbury

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.53	0.5	2328

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.18	0.18	0.18	0.18	0.26	0.26	0.26	0.26	0.27	0.27	0.27	0.27

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.92	1.92	1.92	1.92
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: South Central CT Regional Water Authority

Towns Served: Ansonia, Bethany, Branford, Cheshire, East Haven, Hamden, Milford, New Haven, North Branford, North Haven, Orange, West Haven, Woodbridge and portions of Derby and Seymour

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground Water	81.20	76.70	437955

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
50.900	55.000	56.600	62.600	59.400	65.600	71.400	87.700	74.500	82.200	89.400	109.600

	MOS (ADD) without streamflow			
	Current	5-year	20-year	50-year
	1.51	1.39	1.36	1.23
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2009 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Sprague Water & Sewer

Towns Served: Sprague

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.13	0.13	1652

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.07	0.07	0.08	0.1	0.08	0.09	0.1	0.13	0.11	0.13	0.14	0.18

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.63	1.44	1.30	1.00
Minimum Adequate Margin of Safety	YES	YES	YES	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2005 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: SCWA - Barrett Division

Towns Served: Ledyard

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.05	0.04	300

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.24	2.03	2.03	2.03
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: SCWA - Birchwood Division

Towns Served: Montville

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.02	0.02	108

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	4.62	2.78	2.78	2.78
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: SCWA - Cedar Ridge Division

Towns Served: North Stonington

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	unknown; DPH	0.04	358

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.026	0.034	0.034	0.034	0.051	0.067	0.067	0.067	0.057	0.074	0.074	0.074

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	0.74	0.56	0.56	0.56
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: SCWA - Chesterfield Division

Towns Served: Montville

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.14	0.04	524

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.02	0.03	0.03	0.03	0.04	0.05	0.05	0.05	0.04	0.07	0.07	0.07

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	0.97	0.83	0.83	0.83
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: SCWA - Chriswood Division

Towns Served: Ledyard

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.02	0.02	164

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03	0.03

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.47	1.08	1.08	1.08
Minimum Adequate Margin of Safety	YES	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: SCWA - Gray Farms Division

Towns Served: Ledyard

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.07	0.05	460

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.027	0.026	0.026	0.026	0.035	0.036	0.036	0.036	0.057	0.054	0.054	0.054

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.42	1.40	1.40	1.40
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: SCWA - Hillcrest Division

Towns Served: Montville

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.20	0.14	699

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.02	0.04	0.04	0.04	0.03	0.08	0.08	0.08	0.04	0.12	0.12	0.12

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	4.64	1.89	1.89	1.89
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: SCWA - Lantern Hill Division

Towns Served: Stonington

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.02	0.02	92

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.007	0.010	0.010	0.010

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	3.03	3.15	3.15	3.15
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: SCWA - Ledyard Division

Towns Served: Ledyard

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.04	0.04	196

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.004	0.009	0.020	0.020	0.004	0.013	0.031	0.031	0.006	0.019	0.045	0.045

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	9.84	3.30	1.41	1.41
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: SCWA - Mohegan Division

Towns Served: Montville

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.17	0.17	1428

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.07	0.08	0.08	0.08	0.09	0.11	0.11	0.11	0.10	0.13	0.14	0.14

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.95	1.57	1.56	1.56
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: SCWA - Montville Division

Towns Served: Montville

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.15	0.16	2174

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.11	0.19	0.21	0.21	0.13	0.26	0.29	0.29	0.14	0.31	0.36	0.36

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.22	0.60	0.53	0.53
Minimum Adequate Margin of Safety	YES	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: SCWA - North Stonington Division

Towns Served: North Stonington

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.37	0.12	1860

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.047	0.055	0.055	0.055	0.070	0.077	0.077	0.077	0.239	0.105	0.105	0.105

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.70	1.53	1.53	1.53
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: SCWA - Robin Hill Division

Towns Served: Montville

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.05	0.05	388

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.02	0.02	0.21	0.21	0.04	0.05	0.29	0.29	0.05	0.08	0.36	0.36

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.31	1.03	0.17	0.17
Minimum Adequate Margin of Safety	YES	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: SCWA - Tower/Ferry View Heights Division

Towns Served: Ledyard

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground water	0.57	0.73	2567

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.17	0.20	0.20	0.20	0.21	0.26	0.26	0.27	0.27	0.34	0.34	0.35

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	3.53	2.82	2.79	2.76
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: So. Norwalk Electric & Water (Second Taxing District of Norwalk)

Towns Served: Norwalk, small portion of Wilton

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface Water	5.50	5.50	42000

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
4.910	4.910	4.790	5.100	6.260	6.260	6.100	6.470	7.820	7.820	7.620	8.080

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.12	1.12	1.15	1.08
Minimum Adequate Margin of Safety	NO	NO	YES	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Southington Water Department

Towns Served: Southington (ESA includes Cheshire)

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground Water	8.63	7.26	40408

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
3.90	4.22	4.61	5.29	5.62	6.07	6.64	7.62	7.77	8.06	8.81	10.11

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.29	1.19	1.09	0.95
Minimum Adequate Margin of Safety	YES	YES	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Tolland Water Department

Towns Served: Tolland

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.48	0.22	1251

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.14	0.21	0.24	0.33	0.17	0.27	0.31	0.42	0.3	0.41	0.48	0.65

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.29	0.81	0.71	0.52
Minimum Adequate Margin of Safety	YES	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2009 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Torrington Water Company

Towns Served: Torrington, Burlington, Harwinton, very small corner of New Hartford

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface Water	5.32	5.32	41454

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
3.350	3.540	4.380	4.620	3.830	4.050	5.000	5.280	4.920	5.200	6.430	6.790

	MOS (ADD) without streamflow			
	Current	5-year	20-year	50-year
	1.59	1.50	1.21	1.15
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2009 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Topstone Hydraulics - Ridgefield Knolls System

Towns Served: Ridgefield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.1	0.1	967

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.054	0.044	0.043	0.042	0.066	0.046	0.045	0.044	0.074	0.05	0.05	0.05

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.52	2.17	2.22	2.27
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2007 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: United Water (formerly Bethel Consolidated - Chimney Heights)

Towns Served: Bethel

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.22	0.22	2,227

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.11	0.14	0.16	0.18	0.16	0.2	0.22	0.25	0.18	0.23	0.25	0.29

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.38	1.10	1.00	0.88
Minimum Adequate Margin of Safety	YES	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2004 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: United Water - Indian Ridge Division

Towns Served: New Milford

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.108	0.108	288

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.01	0.011	0.011	0.011	0.014	0.013	0.013	0.013	0.02	0.019	0.019	0.019

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	7.71	8.31	8.31	8.31
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2009 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: United Water - Meadowbrook Division

Towns Served: New Milford

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.035	0.035	404

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.032	0.03	0.03	0.03	0.039	0.035	0.035	0.035	0.05	0.054	0.054	0.054

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	0.90	1.00	1.00	1.00
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2009 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: United Water - Newtown Division

Towns Served: New Milford, Brookfield, Bethel

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	1.177	1.177	40

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.557	0.561	0.628	0.727	0.699	0.713	0.798	0.923	0.856	0.954	1.068	1.235

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.68	1.65	1.47	1.28
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2009 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: United Water - Pleasant View Division

Towns Served: New Milford

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	0.023	0.023	206

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.02	0.02	0.02	0.02	0.022	0.023	0.023	0.023	0.029	0.035	0.035	0.035

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.05	1.00	1.00	1.00
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2009 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: United Water - Twin Oaks Division

Towns Served: New Milford

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.019	0.019	150

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.009	0.008	0.008	0.008	0.01	0.009	0.009	0.009	0.015	0.013	0.013	0.013

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.90	2.11	2.11	2.11
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.
** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2009 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: United Water Woodbury

Towns Served: Woodbury

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.281	0.281	1642

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.174	0.181	0.184	0.206	0.197	0.217	0.217	0.221	0.278	0.289	0.294	0.33

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.43	1.29	1.29	1.27
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2009 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: University of Connecticut

Towns Served: Storrs

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	1.458	1.458	13027

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
1.29	1.7	1.79	1.79	1.53	2.22	2.32	2.32	2.19	3.31	3.48	3.48

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
Minimum Adequate Margin of Safety	0.95	0.66	0.63	0.63
	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2004 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Valley Water Systems (formerly Plainville Water Co)

Towns Served: Plainville, Southington, Farmington

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	2.94	2.94	17078

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
1.80	2.01	2.09	2.25	2.23	2.91	3.02	3.26	2.85	3.70	3.84	4.13

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.32	1.01	0.97	0.90
Minimum Adequate Margin of Safety	YES	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2004 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Wallingford Water Division

Towns Served: Wallingford and 15 residents of Cheshire

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface/Ground Water	9.08	9.00	2875

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
4.97	5.01	5.28	5.65	6.24	6.29	6.62	7.09	7.61	7.65	8.06	8.63

	MOS (ADD) without streamflow			
	Current	5-year	20-year	50-year
	1.81	1.80	1.71	1.59
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Waterbury Bureau of Water

Towns Served: Waterbury

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface Water	27.00	27.00	107271

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
15.580	16.600	16.700	17.500	20.100	21.600	21.700	22.800	20.400	24.900	25.100	26.300

	MOS (ADD) without streamflow			
	Current	5-year	20-year	50-year
	1.73	1.63	1.62	1.54
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2007 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Waterford WPCA

Towns Served: Waterford

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Consecutive System	not applicable	see New London	26,273

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
1.76	1.92	2.14	2.54	2.34	2.55	2.85	3.38	2.86	3.12	3.49	4.14

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.08	1.05	1.01	0.90
Minimum Adequate Margin of Safety	NO	NO	NO	NO

Margin of Safety - The unitless ratio of available water to demand.
* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.
** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year.

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of supply for each calendar month by the number of days in that month and expressed in gallons per day.

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2008 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Watertown Fire Dist.

Towns Served: Watertown

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Ground Water	1.35	1.35	6718

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.55	0.61	0.62	0.66	0.76	0.92	0.93	0.99	1.12	1.27	1.28	1.37

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.78	1.47	1.45	1.36
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

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Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2006 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Watertown Water & Sewer

Towns Served: Watertown

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Consecutive System	not applicable	3	10,572

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
1.05	1.16	1.32	1.81	1.55	1.72	1.96	2.68	2.94	3.26	3.72	5.09

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.86	2.59	2.27	1.66
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

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Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources of

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2004 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Windham Water Works

Towns Served: Windham, Mansfield

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface Water	7.90	4.10	20193

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
2.330	2.170	2.420	2.570	2.740	2.470	2.750	2.930	3.970	3.380	3.770	4.010

	MOS (ADD) without streamflow			
	Current	5-year	20-year	50-year
	1.76	1.89	1.69	1.60
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

1) Public water systems utilizing surface water sources with a safe yield of 5.0 million gallons per day (MGD) or greater should maintain a margin of safety of fifteen percent (15%) or greater based on the average daily demand (ADD) of the system.

Average day demands are reasonable to consider for this type of system due to the following:

- **Larger surface water supplies can be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

*** DPH will be proposing legislation to legally define minimum quantative numerical values for margin of safety to ensure consistency across the water industry and to protect the health, safety, and economic interests and well being of the State of Connecticut.**

Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all sources

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2004 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Winsted Water Department

Towns Served: Winchester

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Surface Water	2.98	2.98	7784

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.960	1.350	1.550	1.890	1.060	1.510	1.740	2.120	1.210	1.780	2.050	2.490

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	2.81	1.97	1.71	1.41
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

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- **Treatment plant capacities are generally higher than approved safe yield capacities.**
- **Large amounts of storage are available in the reservoir itself which allow the system to operate safely over an extended time period to accomodate high demand periods.**

2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
- **Large amounts of storage are not available in a groundwater source or small reservoir.**

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Available Water - The maximum amount of water a company can dependably supply, taking into account the following limitations applied to safe yield: limitations imposed by hydraulics, treatment, pump capabilities, permit conditions, approval limitations, legal restrictions, maximum contractual legal agreements to supply water, Sale of Excess Water (SEW) permits to neighboring utilities, etc.

Average Daily Demand - The total annual production from all sources of supply divided by the number of days in that calendar year

Maximum Month Average Daily Demand - The highest water demand in a month calculated by dividing the total production from all

Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2007 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Woodlake Tax Dist.

Towns Served: Woodbury

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Groundwater	0.13	0.13	912

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.06	0.06	0.06	0.06	0.08	0.08	0.07	0.07	0.08	0.08	0.08	0.08

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.63	1.63	1.86	1.86
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

** When available, projected margin of safety with streamflow is based upon projections provided by the public water system in question.

The margin of safety must be sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand, therefore, DPH strongly advises the following margin of safety criteria to meet the above legal definition and to ensure adequate water service and protection of public health and safety:

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2) Public water systems utilizing groundwater sources, surface water sources with a DPH approved safe yield of less than 5.0 MGD, or any combination thereof should maintain a margin of safety of fifteen percent (15%) or greater based on the maximum month average daily demand (MMADD) of the system.

Maximum month average day demands are reasonable to consider for groundwater systems or small surface water supplies due to the following:

- **Maximum month average day demand conditions can extend for up to a few months during high demand periods which would leave these systems more susceptible to water supply emergency conditions.**
- **These sources can not be utilized at capacities beyond their approved safe yield for extended time periods without incurring long term deliterous effects to the supply.**
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Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2005 Water Supply Plan & Safe Drinking Water Information System (SDWIS)

Margin of Safety Analysis
A Review of Available Public Water Supply Versus Water Demand

Public Water System: Worthington Fire Department

Towns Served: Berlin

Connecticut Department of Public Health

Source Water Type	Safe Yield, MGD	Available Water, MGD	Population
Purchase from Berlin		0.69	37267

Average Daily Demand (ADD), (MGD)				Maximum Monthly Average Daily Demand (MMADD), (MGD)				Maximum Daily Demand (MDD), (MGD)			
Current	5-year	20-year	50-year	Current	5-year	20-year	50-year	Current	5-year	20-year	50-year
0.27	0.30	0.36	0.37	0.42	0.40	0.47	0.48	N/A	0.46	0.54	0.56

	MOS (MMADD) without streamflow			
	Current	5-year	20-year	50-year
	1.62	1.73	1.46	1.42
Minimum Adequate Margin of Safety	YES	YES	YES	YES

Margin of Safety - The unitless ratio of available water to demand.

* Minimum recommended margin of safety for this system is 15% based on the maximum month average daily demand.

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Maximum Daily Demand - The annual maximum daily rate of water use measured in gallons per day.

Sources of data: 2004 Water Supply Plan & Safe Drinking Water Information System (SDWIS)